

Application Serial No. 09/785,717

REMARKS

A Petition for a One Month Extension of Time Under 37 CFR 1.136(a) and credit card payment of the required \$110.00 fee are being supplied herewith.

Claims 1-24 and 30 are currently amended. Claims 25, 29, 32 and 33 are original.

Applicant has noted that the Examiner has kindly indicated that claims 30 through 33 have been allowed. The amendment to claim 30 is to insert the word "Division" in order to properly characterize the type system the apparatus is for use in, namely, an "Orthogonal Frequency Division Multiplexing"(OFDM). The phrase "Orthogonal Frequency Division Multiplexing"(OFDM) is used through out the specification and claims. Thus, such an amendment to fix this inadvertent error is believed proper and warranted. Consequently, claim 30 as currently amended is still believed to be allowable.

The Examiner has rejected claims 1, 2, 9, 14, 15, 17, 18 and 25 under 35 U.S.C. § 103(a) as being unpatentable over United States Patent 6,459,679 B1 issued to Yung-soo Kim (KIM) on October 1, 2002 and filed July 8, 1999.

It is believed quite clear from the KIM patent that all the elements and method of his apparatus is in the OFDM receiver and that it is necessary for KIM to receive a transmitted OFDM reference symbol before any user data OFDM symbols (KIM Abstract, and particularly, step (a)).

The KIM apparatus is of a type described by applicant in his background of the invention, namely, one that requires the transmission OFDM reference symbols.

No such transmission is required in applicant's invention. Further, applicant is now claiming an OFDM transmitter in which

"phase values of said transmitter output data symbols are not required to be transmitted to a remote receiver for said receiver to generate received versions of said input symbols corresponding to said transmitter output data symbols."

The purpose of applicant's invention, is such as to reduce peak-to-average power by not having to transmit reference symbols before data symbol as is done in KIM.

Thus, claim 1, as currently amended, recites

A transmitter for use in an Orthogonal Frequency Division Multiplexing (OFDM) based transmission system, the transmitter comprising:

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a differential encoder that generates a corresponding encoded output symbol from a corresponding input symbol to said transmitter, said differential encoder including a multiplier for multiplying said input symbol with a prescribed previous output symbol from said differential encoder so that the phase values of said input symbol and said prescribed previous output symbol are the same;

an inverse fast Fourier transform unit that generates inverse fast Fourier transform versions of output symbols from said differential encoder; and

an inverse discrete Fourier transform unit that generates inverse discrete Fourier transform versions of said inverse fast Fourier transform versions of said differential encoder output symbols as transmitter output data symbols,

wherein phase values of said transmitter output data symbols are not required to be transmitted to a remote receiver for said receiver to generate received versions of said input symbols corresponding to said transmitter output data symbols.”

Clearly, KIM fails to show, teach or suggest applicant's invention as now recited in claim 1, as currently amended.

Indeed, nowhere does KIM even remotely indicate that the combination of elements called for in claim 1, as currently amended, can or should be used in an OFDM transmitter to reduce the peak-to-average Power used in an OFDM system and increasing the transmission and reception overhead.

Therefore, it is respectfully submitted that applicant's unique invention as defined in claim 1, as currently, is now allowable under 35 U.S.C. § 103(a) over the rejection based on KIM.

Claims 2-13, as currently amended, further define and/or add to the elements and include all the elements of claim 1, as currently amended. Therefore, claims 2-13, as currently amended, include all the inventive elements of claim 1, as currently amended, and should also be allowed under 35 U.S.C. § 103(a) over the rejection based on KIM.

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Applicant has also noted the Examiner's kind indication that claims 3-8 and 10-13 would be allowable, if amended, to include the elements to their base claim and any intervening claims

Claim 14, as currently amended, is a means plus function claim having similar elements as claim 1, as currently amended, and should be allowed for the same reasons as claim 1, as currently, as set forth above, under 35 U.S.C. § 103(a) over the rejection based on KIM.

Claims 15 and 16 are dependent from claim 14, as currently amended, and therefore include all the inventive elements of claim 14, as currently amended. Since, claim 1, as currently amended, is believed to be allowable and claims 15 and 16 include all of the inventive elements of claim 14, as currently amended, they too, should be allowed over the rejection under 35 U.S.C. § 103(a) based on KIM.

Claim 17, as currently amended, is a method claim having similar elements as claim 1, as currently amended, and should be allowed for the same reasons as claim 1, as currently amended, as set forth above, under 35 U.S.C. § 103(a) over the rejection based on KIM.

Claims 18 through 29 are dependent from claim 14, as currently amended, and therefore include all the inventive elements of claim 14, as currently amended. Since, claim 1, as currently amended, is believed to be allowable and claims 19-29 include all of the inventive elements of claim 14, as currently amended, they too, should be allowed over the rejection under 35 U.S.C. § 103(a) based on KIM.

The Examiner has indicated that claims 30 through 33 are allowed.

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Claims 1-46 remain in this application.

This applicant is now believed to be in condition for allowance. Reconsideration and allowance are therefore respectfully solicited.

If there are still outstanding issues to be resolved, the Examiner is respectfully invited to call applicant's attorney, Thomas Stafford, at 727-772-4173 so that those issues may be discussed and satisfactorily resolved.

Respectfully,
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